

# Earth Sciences Enterprise Information Systems and Services

ESISS Subcommittee to ESSAAC  
(Bernard Minster, Chair)

July 16, 2003

# ESISS Roster, 2003

Derek M. Cunnold	Atmosph. Sci.	Georgia Tech
G. David Emmitt	Meteorology & technology	Simpson Weather Associates, Inc.
Sara J. Graves (past chair, TSC liaison)	Computer Science	Univ. of Alabama
Soroosh Sorooshian	Hydrology	Univ. of Arizona
John Townshend	Geography	Univ. of Maryland
Ethan Schreier	Astrophysics	Assoc. Univ., Inc.
Mark R. Abbott	Ocean / Atmosph.	Oregon State Univ.
Jeremy Bloxham	Geophysics	Harvard Univ.
Patrick E. Mantey	Computer Engin.	UC Santa Cruz
Thomas M. Holm	EROS Data Center	USGS
J. Bernard Minster (Chair, past TSC liaison)	Geophysics	Scripps Inst. Oceanog.

# ESISS Agenda July 9 2003

- The New Face of ESE Data and Information Systems
  - From EOSDIS to the next Decade
  - EOSDIS Current Operations, EMD Contract
  - *The ECS Ordering system*
  - *EOSDIS update: the ECHO system*
- ESIPS Federation Overview
  - *Example of Federation capability (“DODS live”)*
- Global Change Master Directory
  - *GCMD data search*
- SIPS processing: An assessment
- MODAPS (MODIS SIPS) presentation: Lessons learned

# ESISS Agenda July 10 2003

- What is SEEDS?
- SEEDS strategy
  - SEEDS prototype: Precipitation Processing System
  - *PPS Live demonstration*
- NPOESS
- CLASS
- ESTO—Selected AIST Projects
  - *NASA extensions of OGC Web Coverage Services*

# General findings

- **Kudos:** EOSDIS works!
  - DAACS operations: Data flow to users
  - Large number of users; access EOSDIS from the Web
  - ECHO emerging technology is promising
- **ESIPs Federation** a success
  - Incubator for new data system concepts
  - Collaborative efforts created and sustained
  - Some ESIPs very popular
- **GCMD:** nationally and internationally used tool
- **SIPS** processing: Way to go! even for complex instruments like MODIS
  - No data hoarding
  - Keep up with reprocessing (Computational issue evaporated)

# General findings

- **SEEDS** framework development: work in progress
  - **PPS** demonstration an example ...need several more!
  - What is SEEDS? Still a source of confusion.
- Transition to operational era: concrete steps.
  - **NPOESS** make use of EOS heritage
  - **CLASS** needs ongoing interactions / discussions (e.g. is it really “distributed?”)
- **ESTO**: gateway to future DISS
  - Capitalize on grid technology (also explore use of new technologies such as IPv6)
  - Involve panoply of commercial and university developers
  - ESISS will continue coordination with TSC

# ....left for future ESISS meetings

- Technical issues and technology infusion (e.g. Grid)
  - How to avoid “falling behind” without incurring unacceptable risk levels.
- Request more visibility in Budget information
  - Critical supplemental information to priorities and milestones.
- Intra- and interagency partnerships
- International partnerships

# General Issues / Questions



# Data Usability and Exploitation

- How is ESE addressing data usability and exploitation and interoperability/ integration/ interfacing with other data systems and services (including “non-EOSDIS”)
  - How will NASA respond to demands for “timely” delivery of data and participation in the archival and distribution of derived data products? (including simulation results)
  - How does DISS map into the 6 science themes of ESE strategic plan?
  - Should NASA databases incorporate data from other sources (raises issue of “vetting” data quality!) If so how should it be flagged and who will perform the assessment? If not, should the holdings be limited to “standard” products?

# The User Community

- ESE DISS needs a better characterization of its user community
    - REASoN shows strong focus on 3 major user sets:
      - Scientific
      - K-12
      - Decision support system for major Federal agencies
- What about all the other actual and potential users?  
How will their information needs be satisfied?
- How to avoid second-guessing user needs?
  - Data access will inevitably be dominated by machine-to-machine links....this affects metrics

# Community involvement

- **How does the Community at large provide input?**
  - Coordination between ESE efforts (eg in technology/ applications) and similar efforts in other parts of NASA, is not very visible
  - How much coordination & sharing is taking place with other agencies (e.g NOAA, NSF, USDA, etc) when it comes to data and information supporting the 6 science themes
  - Does GCMD have enough contact with its community, with the Federation/SPS, with SEEDS development, or is it becoming a world onto itself?
  - Is SEEDS another “closed” endeavor pursued *for* the ESE community, or is it an “open” endeavor *by* the community?
- **The ESE DISS needs to keep resisting insularity**
- Ties to other major initiatives such as EarthScope?

# Establishing limits of ESE DISS

- How much of the data assimilation and/or modeling products should be incorporated in data centers and are DAACs prepared to do this?
  - How much beyond Level 0/1 data processing should NASA consider its primary responsibility?
  - Should Level 2-4 data products be restricted to “standard” data products?
- Consider leaving more to the users and their individual cost/benefit considerations?
- Adjust to adaptive targeting environment

# Evolution / transition of ESE DIS

- What is the strategy for the evolution/transition of the DISS in terms of gathering requirements, developing and infusing technology, and adjusting organization/management?
  - Can DISS genuinely adapt to changing needs and realize the benefits for an evolving user base.
  - SEEDS still needs more work

# Earth Observation Summit

## Recommendations

- Integration of global observing systems requires concomitant integration of:
  - Data policies (full and open access)
  - Data information systems and services
- It is essential to permit and facilitate user-transparent assembly of joint data sets, with no discrimination based on data source.